USER MANUAL

GETINGE

Models 5524, 5618 & 5624 Warming Cabinets

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USER MANUAL 61301603163

Rev. C (11/20/2003) — General revision. ECOs #121247, 121247, 121300

Rev. B (07/21/2000) — General revision. ECOs #119235, 119394.

Rev. A (06/07/1999) — New release. For warming cabinets with serial number SZ_____.

Related Publications

61301603163OL - Online Operator's Manual

DESCRIPTION OF SYMBOLS & NOTES IN MANUAL

The following symbols with related notes appear in this manual.

"Danger" notes alert the user to the possibility of serious personal injury or death.

"Warning" notes alert the user to the possibility of personal injury.

"Caution" notes alert the user to the possibility of damage to the equipment.

"Notes" alert the user to pertinent facts and conditions.

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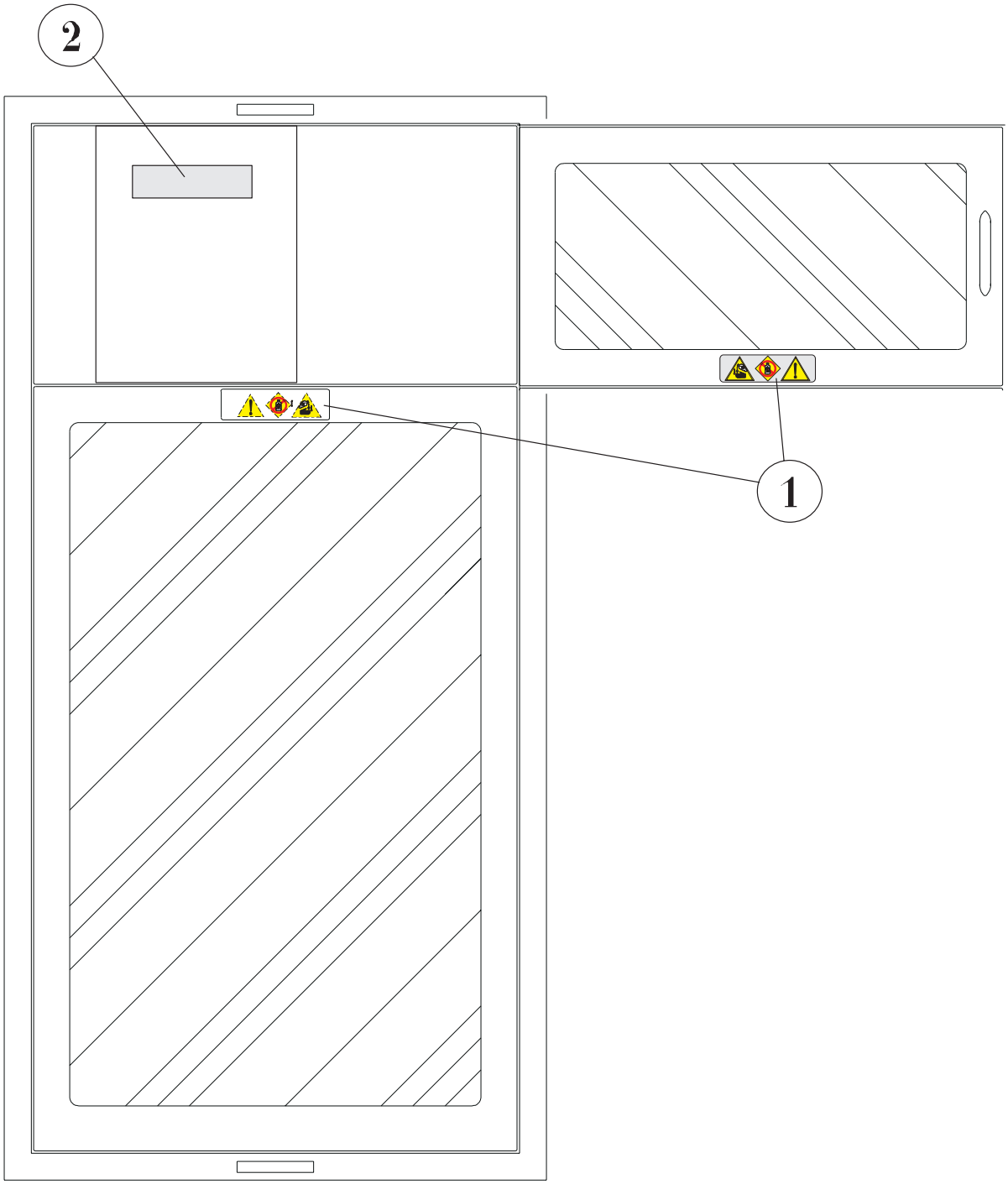
PRODUCT SAFETY LABELS

Figure 1. PRODUCT SAFETY LABELS



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SAFETY LABELS

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Safety Precautions

The warming cabinet has two labels concerned with the safety of the operator and repair personnel. The figure at left shows where the labels are on the unit. Below are the warnings associated with the labels.

1—Liquid Hazards

EXPLOSION HAZARD. Flammable agents in the air contacting electrical components of the warming cabinet can cause an explosion or fire. Serious personal injury and property damage can result. Do not operate the warming cabinet where flammable agents may be introduced into the atmosphere.

BURN HAZARD. Items heated to over 49°C (120°F) can burn skin. Keep items that may contact skin at temperatures below 49°C (120°F).

BURN HAZARD. Do not use liquids on or inject into living tissue unless the actual liquid temperature has been measured and is acceptable. The temperature of warming cabinet contents may be hotter than the displayed chamber air temperature. For patient safety, in accordance with good medical practice, always check the liquid temperature before using.

BURN HAZARD. Do not exceed 150°F for non-vented closures (screw caps, crimp seals, plastic pouches, etc.). Do not exceed the solution manufacturer's temperature requirements.

BURN HAZARD. Do not raise the set temperature to increase the rate of heating. Allow 6-8 hours for solutions to reach the desired temperature.

ATTENTION: CONSULT THE ACCOMPANYING DOCUMENTS. This is the GENERAL CAUTION symbol. Hazards exist. Refer to the User Manual for instructions and further details.

2—Shock Hazard

CAUTION: To reduce the risk of electric shock, do not remove the cover. Refer servicing to qualified service personnel.

HOW TO USE THIS MANUAL

This manual has two main sections.

—1. General Description: For all readers.

—2. Operation: For staff who use the warming cabinets.

RISK OF INJURY. The warming cabinet contains no user-serviceable parts. To avoid injury, refer all repairs to qualified service personnel.

Section 1 General Description

INTRODUCTION

General

Getinge USA Warming Cabinets are designed for the heating and warm storage of saline solutions and blankets used in the care of patients in areas such as surgery, recovery, OB/GYN, ICU or ER. Model 5524 offers a compact size and one warming compartment. Models 5618 and 5624 provide upper and lower compartments.

Each compartment features a “look-in” tempered glass door and independent controls. The control panel has a locking feature to prevent unauthorized changes to the temperature settings. The temperature range is adjustable from 90° to 160°F (32–71°C).

WARNING

CONTRAINDICATIONS: This product is not to be used for the storage of blood or blood products, or for flammable or volatile liquids.

Figure 1–1. WARMING CABINET MODEL 5524

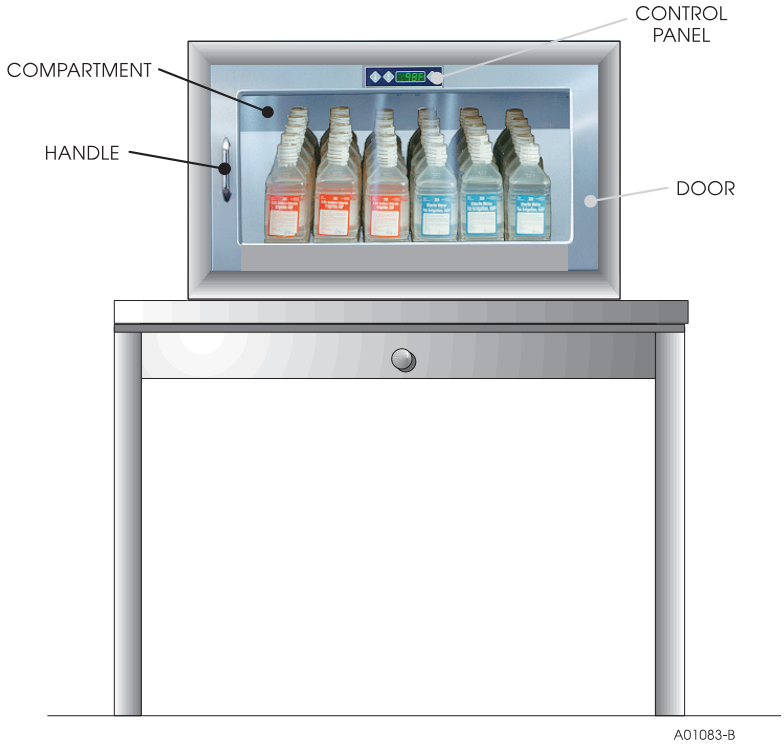
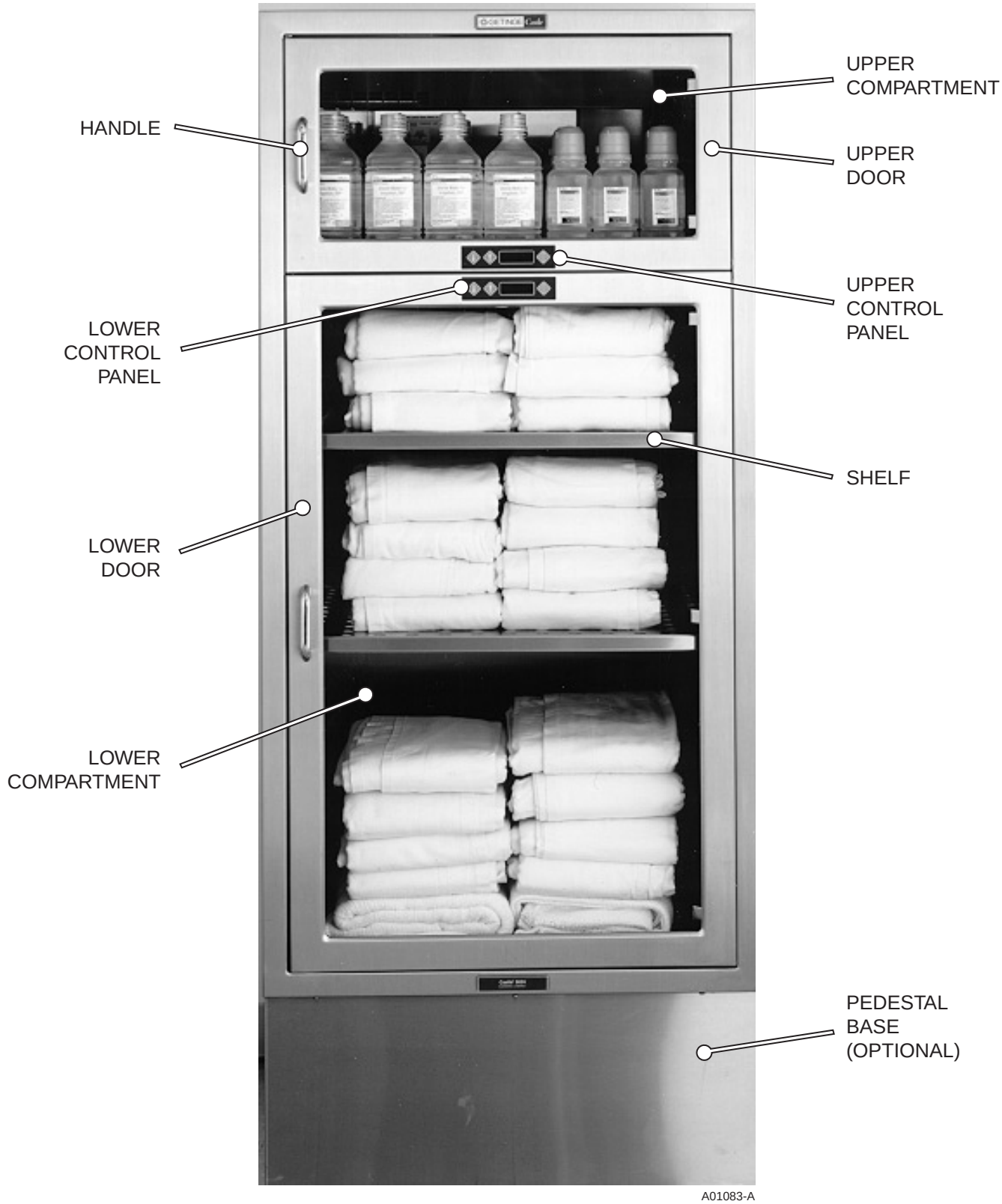


Figure 1–2. WARMING CABINET MODELS 5618 & 5624



Controls

The control panel for each compartment is mounted in the door frame of the compartment which it controls.

Touch pads control:

- Control on/off
- Set point from 90° to 160°F (32–71°C).
- Temperature Display in °F or °C
- Temperature set point lock

Light-emitting diodes (LEDs) display:

- Chamber temperature
- Power loss
- Temperature set point
- Overheat
- Set point locked/unlocked
- Heater on
- Fahrenheit or Celsius

An audible and visual ***-OH-*** alarm indicates an overheat condition.

Performance

Heated air is circulated over the load by fans. The heated air is distributed evenly over the load, achieving convection heating. Each compartment can hold a load of flasks or a quantity of blankets. Once the selected chamber temperature is attained, it will be controlled throughout within 10°F (5.5°C) of the selected temperature. In Model 5524 or in the upper compartment of Models 5618 and 5624, from a cold start and with a full load of two-liter flasks, the load will be heated to the selected temperature within 8 hours or less. In the event of a power loss, once power is restored the unit will indicate a power loss has occurred and resume its pre-power loss state.

Construction

The cabinet unit is double walled stainless steel. Insulation conserves energy. Doors are tempered glass panes framed with stainless steel.

Servicing

Control components are mounted in the rear of the compartments, permitting convenient service access from the front of the unit. Similar provisions are made for easy removal of fans, heater elements and control boards. Integral LED displays provide control and heater-on information for easy serviceability.

Features

- “Look-in” glass doors permit visual inventory control without opening doors
- Large usable volume for storage of solution bottles and blankets

- Forced air convection heating is more effective and eliminates the need for blanket racks
- Independent heat control provides flexibility of different temperatures in each compartment
- Programmable to display °F or °C
- Supervisory lock of temperature set point(s) prevents unauthorized changes of temperature
- Non-volatile memory preserves settings during a power loss
- LED display alerts the operator to a power interruption or loss
- Overheat protection shuts off the heaters and sounds audible alarm
- Adjustable shelves accommodate a variety of loads

Mounting

5524	5618 and 5624
• Table top cabinet • Wall mounted cabinet • Recessed	• Freestanding cabinet with pedestal base • Wall mounted cabinet • Recessed with pedestal base • Recessed, no pedestal base

Options

Option	Part number
• **Power cord kit—**to replace standard 115VAC hard wire permanent connection	61301601076
• **Shelf Kit**—extra shelf and support clips	**5618**—61301601190 **5624**—61301601189
• **Pedestal Filler Trim—**for recessed units with pedestal base	61301601833

MODEL IDENTIFICATION

The data plate for each warming cabinet—including the serial number and catalog number—is on the back wall of the upper compartment.

Record the serial number and the catalog number below.

For fast service, include these two numbers if you contact Getinge USA.

Serial No. _____

Catalog No. _____

TECHNICAL DATA/SPECIFICATIONS

Dimensions [inches (millimeters)]

	5524	5618	5624
Exterior			
Width	30 (762)	30 (762)	30 (762)
Height	17.5 (445)	60 (1524)	60 (1524)
Depth	24 (610)	18 (457)	24 (6100
Interior		—Upper	—Upper
Width	26 (660)	26 (660)	26 (660)
Height	13 (330)	13 (330)	13 (330)
Depth	22.7 (577)	16.7 (425)	22.7 (577)
		—Lower	—Lower
Width		26 (660)	26 (660)
Height		40 (1016)	40 (1016)
Depth		16.7 (425)	22.7 (577)

Capacity

	5524	5618	5624
Total usable Volume	4.1 ft^3 (116 L) 20 two-liter flasks or equivalent dry goods	12.7 ft^3 (359 L)	17.5 ft^3 (495 L)
Upper Compartment	N/A	2.9 ft^3 (83 L) 15 two-liter flasks or equivalent dry goods	4.1 ft^3 (116 L) 20 two-liter flasks or equivalent dry goods
Lower Compartment	N/A	9.8 ft^3 (276 L) 45 two-liter flasks or equivalent dry goods	13.4 ft^3 (379 L) 60 two-liter flasks or equivalent dry goods

Electrical Supply

A dedicated electrical supply with conveniently accessible disconnect switch near the cabinet is required (by customer).

Utility	Max Current (amps)
115V~, 50/60 Hz 1PH	12
230V~, 50/60 Hz 1PH	6
	(15 amp branch circuit)

Section 2 Operation

SAFETY PRECAUTIONS

EXPLOSION HAZARD. Flammable agents in the air contacting electrical components of the warming cabinet can cause an explosion or fire. Serious personal injury and property damage can result. Do not operate the warming cabinet where flammable agents may be introduced into the atmosphere.

BURN HAZARD. Items heated to over 49°C (120°F) can burn skin. Keep items that may contact skin at temperatures below 49°C (120°F).

BURN HAZARD. Do not exceed 150°F for non-vented closures (screw caps, crimp seals, plastic pouches, etc.). Do not exceed the solution manufacturer's temperature requirements.

BURN HAZARD. Do not raise the set temperature to increase the rate of heating. Allow 6-8 hours for solutions to reach the desired temperature.

BURN HAZARD. Do not use liquids on or inject into living tissue unless the actual liquid temperature has been measured and is acceptable. The temperature of warming cabinet contents may be hotter than the displayed chamber air temperature. For patient safety, in accordance with good medical practice, always check the liquid temperature before using.

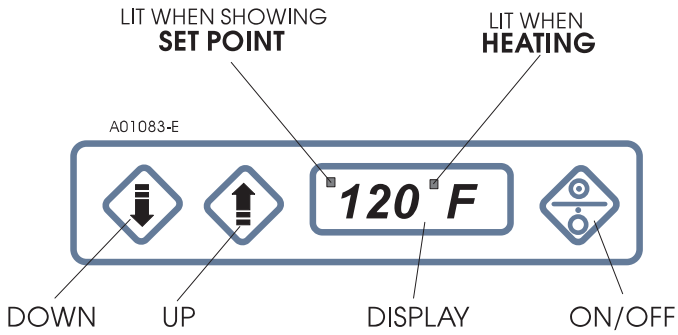
INJURY HAZARD. Turn OFF the control panel and allow the chamber to cool before starting any maintenance operation.

INJURY HAZARD. Repairs and adjustments, other than those described in these instructions, should be attempted only by experienced mechanics fully acquainted with this equipment. Use of inexperienced, unqualified persons to work on the equipment or the installation of unauthorized parts could cause personal injury, result in costly damage, and void the warranty.

DESCRIPTION OF COMPONENTS

Warming cabinet controls

Figure 2–1. CONTROL PANEL



DESCRIPTION OF CONTROLS

Each control panel governs one compartment of the warming cabinet.

ON/OFF—Turns the fans and heating functions ON and OFF for its chamber.

DISPLAY—Normally shows the current temperature of the chamber. Also shows the set point temperature (the temperature that was selected for the chamber to achieve and maintain) and other messages as needed.

UP—*During normal operation:* Press once to display the chamber set point temperature. *When changing the set point:* Press and hold to increase the set point.

DOWN— *During normal operation:* Press once to display the chamber set point temperature. *When changing the set point:* Press and hold to decrease the set point.

SET POINT indicator—Lights when the display is showing the set point temperature.

HEATING indicator—Lights when the heating elements for the chamber are ON

DISPLAY MESSAGES

Message	Meaning
—PF—	**Power Failure**—Shows on initial power-up and when the warming cabinet resumes operation after a power failure. Display alternates with the current chamber temperature. Reset by pressing ON/OFF.
ULOC	**UnLOCked—**Shows that the set point is currently unlocked and can be changed.
LOC	**LOCked—**Shows that the set point is currently locked and cannot be changed.
—OH—	**OverHeat—**Shows when current chamber temperature is at least 4°C (7°F) over the set point. Display alternates with the current chamber temperature. A buzzer also sounds.

INITIAL OPERATION

EXPLOSION HAZARD. Flammable agents in the air contacting electrical components of the warming cabinet can cause an explosion or fire. Serious personal injury and property damage can result. Do not operate the warming cabinet where flammable agents may be introduced into the atmosphere.

Display and Buzzer Test

1. Be sure the mains disconnect switch is turned ON so there is power supplied to the unit.
2. If the control panels do not read OFF, press ON/OFF to turn OFF each control panel.
3. Press and hold ON/OFF.
4. All display segments and the buzzer turn on. Otherwise, the test has failed.
5. Release ON/OFF.

Initial Power-up

If the displays read OFF, press ON/OFF to turn ON each control panel.

If the mains disconnect switch was just turned ON, or if there has been a power failure, each display alternates between "—PF—" and "ON." To reset the display, press ON/OFF.

Selecting °F/°C

The warming cabinet can be set to display either °F or °C. If the other scale is desired, see *Display °C or °F* later in this section.

Overheat Alarm Test

1. Change the set point to a temperature at least 4°C (7°F) lower than the actual chamber temperature.
   - The buzzer continuously sounds.
   - The display alternates between ***-OH-*** and current chamber temperature.
2. To cancel the alarm, change the set point temperature to its previous value.

OPERATING INSTRUCTIONS

Turning on the Warming Cabinet

Press and release ON/OFF for each compartment.

- The display shows the current chamber temperature.
- HEATING lights until the chamber is heated to the set point temperature.

Selecting the Set Point Temperature

DISPLAY THE CURRENT CHAMBER SET POINT TEMPERATURE

1. Press and release either UP or DOWN.
2. The set point displays for 2 seconds.

BURN HAZARD. Items heated to over 49°C (120°F) can burn skin. Keep items that may contact skin at temperatures below 49°C (120°F).

CHANGE THE CHAMBER SET POINT TEMPERATURE

To change the set point temperature, there are three main steps:

- Unlock the set point
- Change the set point
- Lock the new set point

Unlock the Set Point

1. If the display reads OFF, press ON/OFF to turn ON the control panel.
2. Press and hold ON/OFF.
3. Press and hold DOWN.
4. Release ON/OFF.
5. Release DOWN.

   The display shows ULOC (unlocked). The set point is now unlocked.

Change the Set Point

Increase the set point

1. Press and hold UP.
   - After 1 second, the set point will scroll up slowly.
   - After 5 digits have scrolled, the set point will scroll up quickly.
2. When the desired temperature is reached, release UP.

Decrease the set point

1. Press and hold DOWN.
   - After 1 second, the set point will scroll down slowly.
   - After 5 digits have scrolled, the set point will scroll down quickly.
2. When the desired temperature is reached, release DOWN.

Lock the New Set Point

1. If the display reads OFF, press ON/OFF to turn ON the control panel.
2. Press and hold ON/OFF.
3. Press and hold UP.
4. Release ON/OFF.
5. Release UP.

   The display shows LOC (locked). The new set point is now locked.

Loading the Cabinet

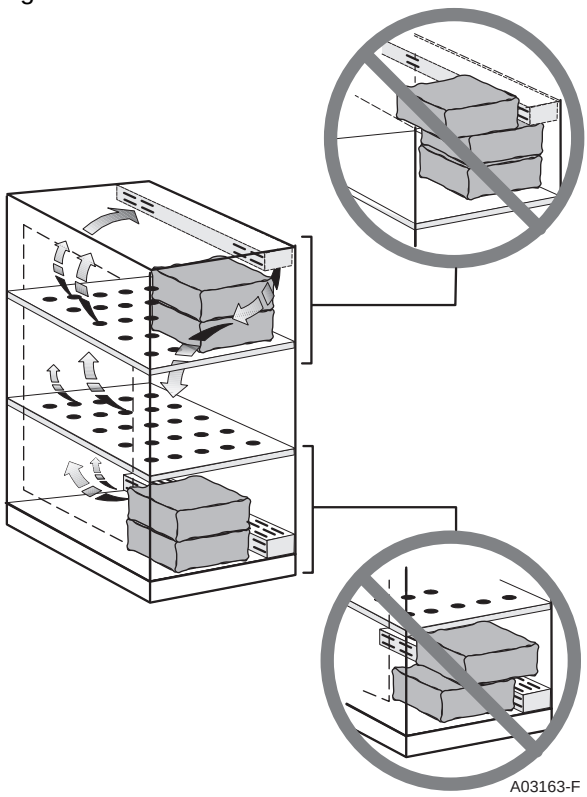
EXPLOSION HAZARD. Flammable agents in the warming cabinet can cause an explosion or fire. Do not load the warming cabinet with any item that could introduce flammable agents into the cabinet atmosphere.

HOT SURFACES. Internal surfaces of the warming cabinet are hot. Avoid contact with internal surfaces when loading or unloading the warming cabinet. Wear protective safety glasses and gloves.

When loading materials inside the warmer, do not block the air vents in the rear corners of the chamber (see Figure 2–2).

Check and follow guidelines of the solution manufacturer for 1) recommended storage temperatures, 2) shelf life and stock rotation when stored at elevated temperatures, and 3) guidelines for solutions that have been removed from heated storage but not used.

Figure 2–2. KEEP AIR VENTS CLEAR WHEN LOADING



Unloading the Cabinet

WARNINGS

BROKEN GLASS HAZARD. Hot glass can shatter when suddenly cooled. Wear approved safety glasses when removing hot glassware from the warming cabinet.

HOT SURFACES. Internal surfaces of the warming cabinet are hot. Avoid contact with internal surfaces when loading or unloading the warming cabinet. Wear protective safety glasses and gloves.

BURN HAZARD. Items heated to over 49°C (120°F) can burn skin. Wear protective gloves when unloading items heated above 49°C (120°F).

Turning off the Warming Cabinet

Turn OFF each compartment.

1. Press and release ON / OFF on each control panel.
2. Each display will read OFF.

DISPLAY °C OR °F

1. If the display reads OFF, press ON/OFF to turn ON the control panel.

   The control panel shows the current temperature in either °C or °F. If the other temperature scale is desired, continue as follows.
2. Press and hold ON/OFF.
3. At the same time, press and hold both UP and DOWN.
4. Release ON/OFF.
5. Release both UP and DOWN.

   The display now shows the other temperature scale.

OVERHEAT ALARM (*—OH—*)

When the actual temperature in a chamber exceeds the set point by at least 4°C (7°F):

- The buzzer continuously sounds.
- The display alternates between ***-OH-*** and current chamber temperature.

To Respond to the Alarm

1. Cancel the alarm (use the procedure below).
2. Assess the situation and its severity.
3. Respond to the immediate situation—turn off the controls, remove goods from the cabinet, disconnect power from the warming cabinet, or make other responses as the situation demands.
4. Find the root cause for the ***-OH-*** indication. Remedy this cause if possible.
5. If required, call qualified service personnel for troubleshooting and repairs.

To Cancel the Alarm

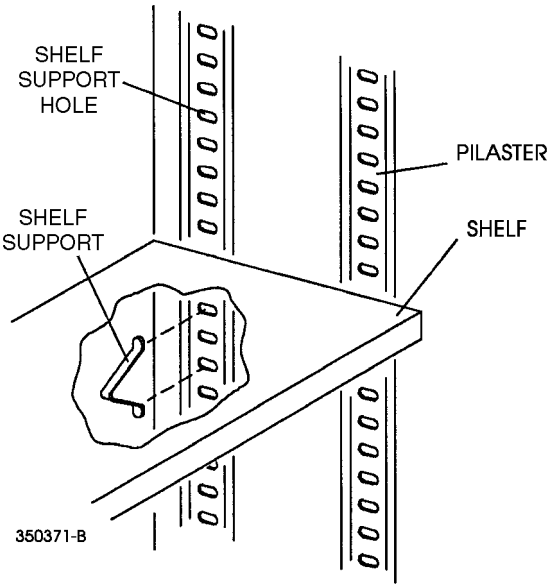
1. Press ON/OFF to turn off the heaters.
2. Before pressing ON/OFF again, allow the compartment to cool or adjust the set point temperature to within 4°C (7°F) of the actual temperature.

NOTE ▶

If you reduce the set temperature by more than 4°C (7°F), you will trigger the overheat alarm. To cancel the alarm, press ON/OFF.

SHELF ADJUSTMENT

Figure 2–3. ADJUSTING A SHELF



1. Determine the new position of the shelf.
2. Squeeze and tip the shelf supports up and out of the shelf support holes in the cabinet wall (see Figure 2–3. ADJUSTING A SHELF).
3. Snap the shelf supports into the selected new positions.
4. Count the empty holes in the pilaster at each of the corners to be sure that the shelf will be level in the new position.
5. Reinstall the adjustable shelf in its new position.

POWER FAILURE

After a Power Failure

- The unit will resume operation as it was before power failure.
- The display will alternate between “–PF–” and the current chamber status.

Resetting the Display

To reset the display, press ON/OFF.

Handling Cooled Solutions

To tell if the solutions in the warming cabinet have cooled, compare the current temperature display and the original set-point of the solution compartment.

NOTE▶

Check and follow guidelines of the solution manufacturer for solutions that have cooled or that have been removed from heated storage but not used.

Remove and discard solutions if required and start again with a new supply.

CLEANING EXTERNAL AND INTERNAL SURFACES

1. Clean all exterior and interior surfaces of the warming cabinet as needed with a damp towel and mild unabrasive detergent.
2. Rub surfaces back-and-forth (in the same direction as the surface grain), not in a circular motion.
3. More thorough cleaning is a part of regular 6-month maintenance (see Service.

QUALITY SERVICE—RELIABLE PERFORMANCE

Getinge USA recommends preventive maintenance performed by factory trained Product Support Representatives, using authorized parts and service techniques. Recognizing symptoms of potential trouble and making corrections immediately is less costly and less time consuming than repairing damaged equipment. Our performance assurance plan offers scientific maintenance, not merely repair service.

For quality service on this equipment and information on our performance assurance plan, contact your nearest company representative, or write to:

Getinge USA, Inc.
1777 East Henrietta Road
Rochester, NY 14623-3133

or call (800) 950-9912.

RECOMMENDED SPARE PARTS LIST

To ensure that parts are immediately available when needed, maintain a stock of the spare parts below.

Recommended Spare Parts List

Qty	5618/5624 Part No.	5524 Part No.	Description
115V Units only			
2	61301600840 (12 amp)	61301601452 (5 amp)	Fuse, Slow Blow
1	61301600439		Fan, 1F–3F, Tubeaxial, 115V 50/60 Hz
1	61301600474		Heater 115V 400w
1	61301602603	N/A	Fan, Flat Pak, 115V 50/60 Hz
230V Units only			
2	61301600841 (6.25 amp)	67621 (3 amp)	Fuse, Slow Blow
1	61301600440		Fan, 1F–3F, Tubeaxial, 230V 50/60 Hz
1	61201600611		Heater 230V 400w
1	61301602604	N/A	Fan, Flat Pak, 230V 50/60 Hz
1	61301605362		Insul Encl,Elec,High Temp,Mica
All Units			
1	61301600382		PCB Cont/Display
1	61301600624		Probe, Temperature
1	61301605300		Relay, Solid State, 25AMP
1	61301601841		PCB, Power Supply, 5VDC
1	61301601873		FUSE, 2A, fast acting 5 mm X 20 mm (on Power Supply)
5	521160		Shim, Hinge .036
5	521161		Shim, Hinge .060
2	61301603370	61301603368	Gasket, side
2	61301603369		Gasket, center, 5524 5618 5624
1	910312600		Snap-in Shelf Support

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